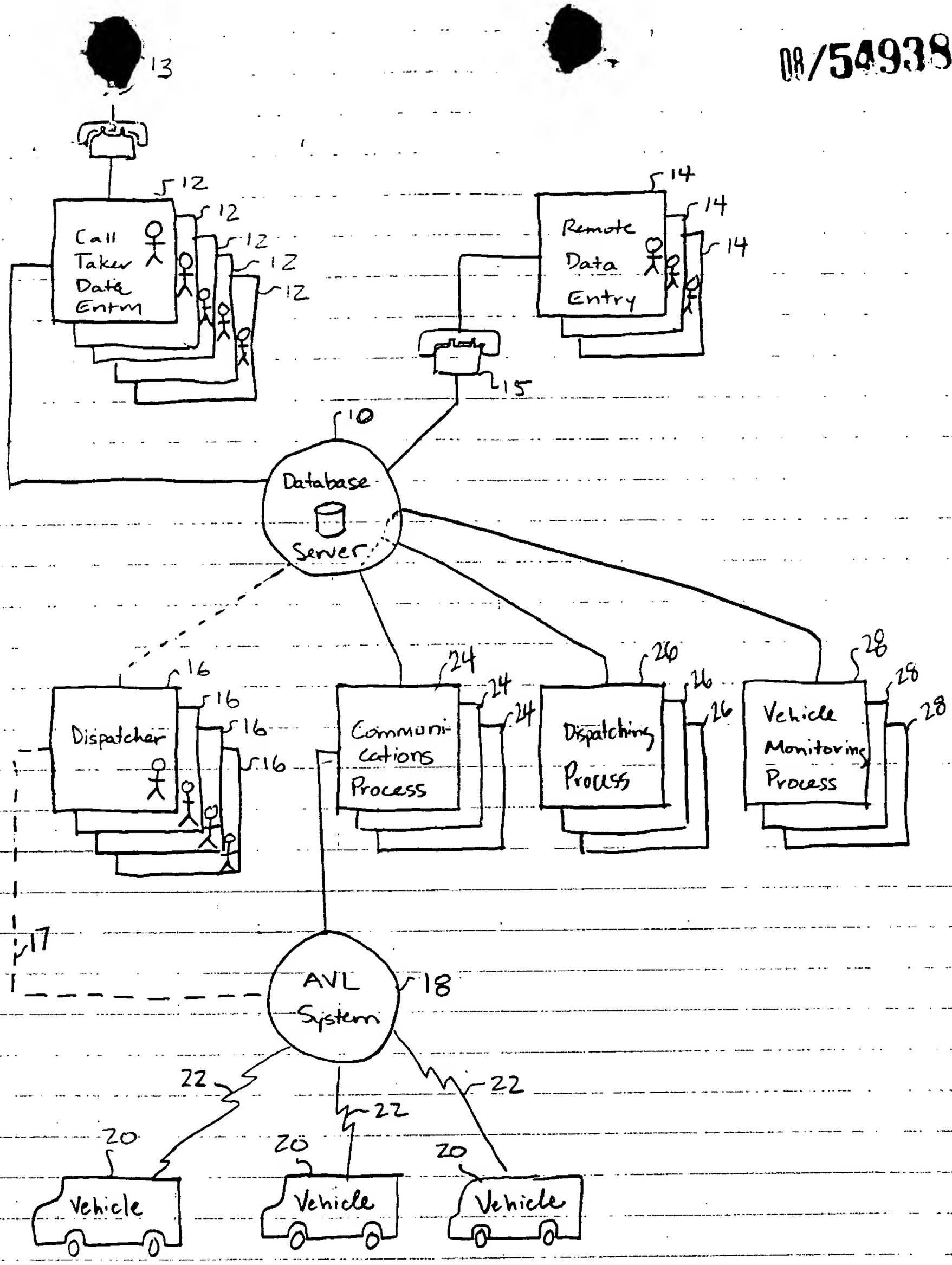
13
12
12
12
12
12
Call Taker Data Entry
14
14
14
Remote Data Entry
15
10
Database Server
16
16
16
16
Dispatcher
24
24
24
Communi-cations Process
26
26
26
Dispatching Process
28
28
28
Vehicle Monitoring Process
17
AVL System
18
22
22
22
20
20
20
Vehicle
Vehicle
Vehicle

Fig. 1

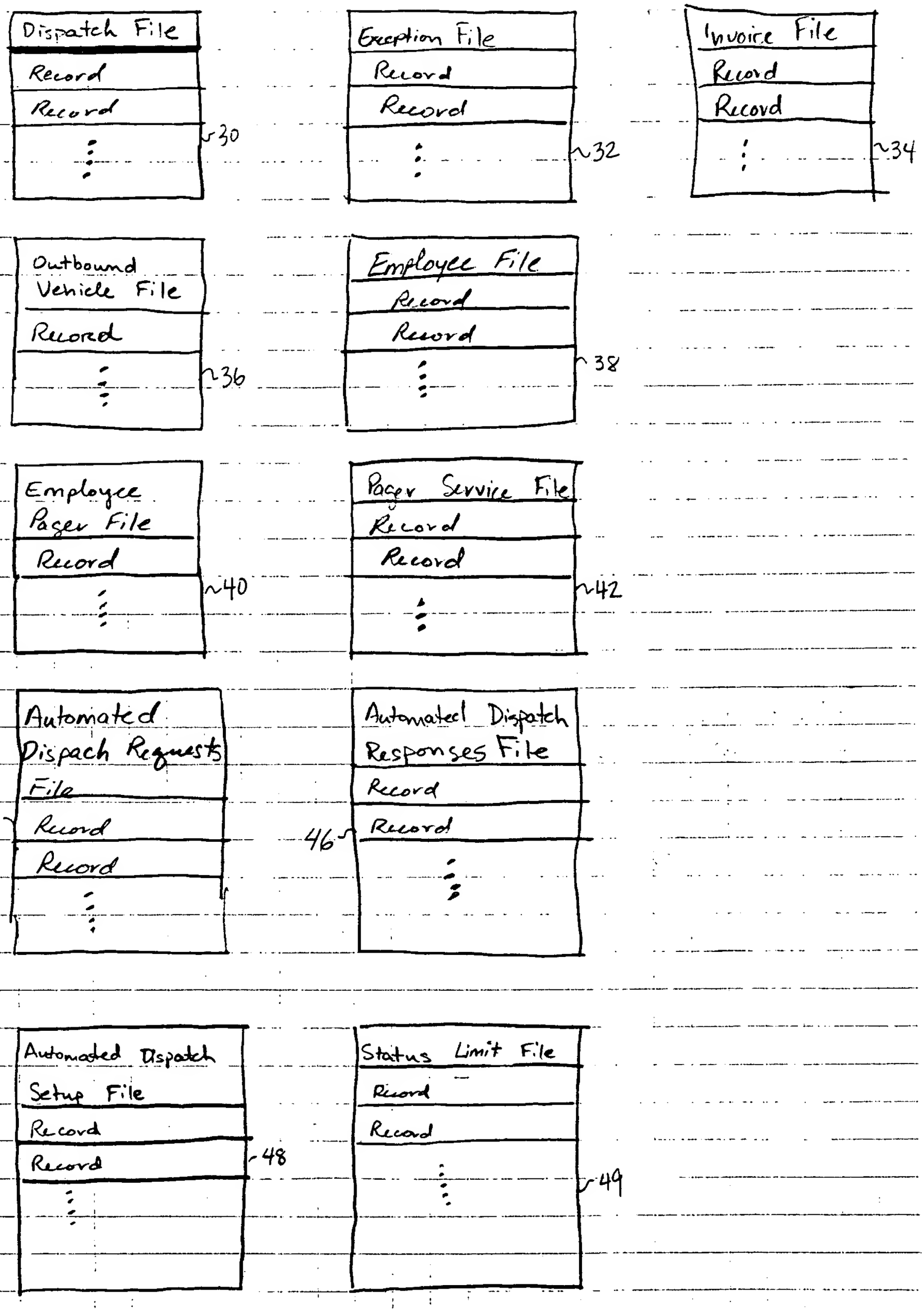
Dispatch File
Record
Record
30
Exception File
Record
Record
32
Invoice File
Record
Record
34
Outbound Vehicle File
Record
36
Employee File
Record
Record
38
Employee Pager File
Record
40
Pager Service File
Record
Record
42
Automated Dispach Requests File
44
Record
Record
Automated Dispatch Responses File
Record
46
Record
Automated Dispatch Setup File
Record
Record
48
Status Limit File
Record
Record
49

Fig. 2

Dispatch File

1Transport ID Number
2Status Flag (=" ", "D", "C", or "F")
3Date of Service
4Appointment Time (=<time> or "ASAP")
5Lead Time
6Transport Type (Wheelchair/Basic/AdvancedLifeSupport)
7Vehicle ID Number
8Driver Employee Number
9Attendant Employee Number
10Pickup Location
11Pickup Latitude
12Pickup Longitude
13Destination Location
14Destination Latitude
15Destination Longitude
16Time of Call
17Time Crew Notified
18Time Crew Dispatched
19Time Crew En Route to Pickup (Scene)
20Time Crew Arrived at Pickup (Scene)
21Time Crew En Route to Destination
22Time Crew Arrived at Destination
23Time Crew Reported as Available
24Reason for transport 1
25Reason for transport 2
26Reason for transport 3
27Reason for transport 4
28Patient ID number
29Name of caller
30Contract number
31Base rate codes
32Mileage rate codes
33Extra services rate codes
34Billing address codes

Fig. 3A

Invoice File

1 Transport ID Number
2 Date of Service
3 Vehicle ID Number
4 Driver Employee Number
5 Attendant Employee Number
6 Pickup Location
7 Destination Location
8 Time of Call
9 Time Crew Notified
10 Time Crew Dispatched
11 Time Crew En Route to Pickup (Scene)
12 Time Crew Arrived at Pickup (Scene)
13 Time Crew En Route to Destination
14 Time Crew Arrived at Destination
15 Time Crew Reported as Available
16 Reason for transport 1
17 Reason for transport 2
18 Reason for transport 3
19 Reason for transport 4
20 Patient ID number
21 Name of caller
22 Contract number
23 Base rate codes
24 Mileage rate codes
25 Extra services rate codes
26 Billing address codes

Fig. 3B

Outbound Vehicle File

1 Vehicle ID Number
2 Transport ID Number

Fig. 3C

Employee File

1 Employee ID Number
2 Employee Name

Fig. 3D

Employee Pager File

1Employee ID Number
2Pager Service Code Number
3Pager PIN Number
4Pager Phone Number
5Text or Alpha ("T" or "A")

Fig. 3E

Pager Service File

1Pager Service Code Number
2Pager Service Modem Number
3Pager Modem Login ID
4Pager Modem Password
5Pager Modem Baud Rate
6Pager Modem Word Length
7Pager Modem Stop Bits
8Pager Modem Script Name

Fig. 3F

Automated Dispatch Requests File

Message Packet Key Code
    Terminal ID Number
    Transport ID Number
    Unique Sequence Number (000)
Message Body

Fig. 3G

Automated Dispatch Responses File

Message Packet Key Code
    Terminal ID Number
    Transport ID Number
    Unique Sequence Number (000)
Message Body

Fig. 3H

Automated Dispatch Setup File

1Company Code
2Dispatch Advance Action Setting (minutes)
3Monitor Status Late Activity ("Yes"/"No")
4AVL Port Operating System Name
5AVL Port Lock File Name

Fig. 3I

Exception File

1Transport ID Number
2Exception code

Fig. 3J

Status Limit File

1Company Code
2Notified limit (minutes)
3Dispatched limit (minutes)
4En Route to Pickup limit (minutes)
5Arrived limit (minutes)
6En Route to Destination limit (minutes)
7At Destination Limit (minutes)
8ASAP Limit (minutes)

Fig. 3K

From CAD

record code = 01
record ID = transport number + terminal number + sequence (000)
transport / vehicle type (als / bls / w/c)
pick up address
pick up city
pick up state
pick up zip code
quantity of vehicle to return from search
CRC

Fig. 3K-1

From AVL

record code = 02
record ID = transport number + terminal number + sequence (000)
vehicle string (sorted closest to farthest away from address)
CRC

Fig. 3K-2

From CAD

record code = 10
record ID = transport number + terminal number + sequence (000)
vehicle ID number
pick up address
pick up city
pick up state
pick up zip
destination address
destination city
destination state
destination zip
CRC

Fig. 3L-1

From AVL

record code = 11
record ID = transport number + terminal number + sequence (000)
route string
CRC

Fig. 3L-2

From CAD

record code = 30
record ID = transport number + terminal number + sequence (000)
vehicle ID number
transport number
date of service
appointment time
transport type
patient name
patient phone number
pick up street address
pick up city
pick up state
pick up zip code
destination street address
destination city
destination state
destination zip code
reason for transport 1
reason for transport 2
reason for transport 3
reason for transport 4
time of call
notified
dispatched
in route
arrive pick up
in route
arrive destination
available
route message
CRC

Fig. 3M-1

From AVL

record code = 31
record ID = transport number + terminal number + sequence (000)
CRC

Fig 3M-2

From CAD

record code = 70
record ID = transport number + terminal number + sequence (000)
transport number
vehicle number
pickup street address
pickup city
pickup state
pickup zip code
destination street address
destination city
destination state
destination zip code
CRC

Fig 3N-1

From AVL

record code = 71
record ID = transport number + terminal number + sequence (000)
transport number
pickup latitude
pickup longitude
destination latitude
destination longitude
CRC

Fig. 3N-2

From CAD

record code = 60
record ID = vehicle ID number
vehicle ID number
transport number
transport type
appointment time
transport status code
transport status time
driver employee number
attendant employee number
patient name
pick up address
pick up city
pick up state
pick up zip code
destination address
destination city
destination state
destination zip code
CRC

Fig. 30-1

From AVL

record code = 61
record ID = vehicle number
CRC

Fig. 30-2

From AVL

record code = 50 1P
record ID = vehicle number
CRC

Fig. 3P-1

From CAD

record code = 51
record ID = vehicle ID number
vehicle ID number
transport number
transport type
appointment time
transport status code
transport status time
driver employee number
attendant employee number
patient name
pick up address
pick up city
pick up state
pick up zip code
destination address
destination city
destination state
destination zip code
CRC

Fig. 3P-2

From AVL

record code = 40
record ID = transport number + vehicle ID number + sequence (000)
vehicle ID number
transport number
date of service
appointment time
transport type
patient name
patient phone number
pick up street address
pick up city
pick up state
pick up zip code
destination street address
destination city
destination state
destination zip code
reason for transport 1
reason for transport 2
reason for transport 3
reason for transport 4
time of call
notified
dispatched
in route
arrive pick up
in route
arrive destination
available
CRC

Fig. 3Q-1

From CAD

record code = 41
record ID = transport number + vehicle ID number + sequence (000)
vehicle ID number
CRC

Fig. 3Q-2

From AVL

record code = 20
record ID = transport number + vehicle number
status level (1 - 8 from mobile data terminal switch device)
CRC

Fig. 3R-1

From CAD

record code = 21
record ID = transport number + vehicle number
status level (1 - 8 returned for acknowledgment)
CRC

Fig. 3R-2

50 Open Dispatch File

(F) → ↓ 26

52 ~ Extract on file

(B) → ↓

54 ~ Get dispatch record (Fig. 3A)

↓

56 ~ EOF? — Yes → (F) Fig. 4A

↓ No

58 ~ Is record idled inexception file? — Yes → (B) Fig. 4A

↓ No

60 ~ Is record status= prescheduled? — No → (B) Fig. 4A

↓ Yes

62 ~ Is record from current company? — No → (B)

↓ Yes

64 ~ Is record ASAP, or is <current time> - <appointment time> less than or equal to the <lead time> + <advance action time>? — No → (B) Fig. 4A

↓ Yes

66 ~ Request N closest vehicles from AVL which can handle job. (Fig 3K-1)

↓

68 ~ Obtain the AVL response (Fig. 3K-2)

↓

70 ~ Scan vehicles identified by AVL to locate an available vehicle — None found → (A) Fig. 4A

↓ Found

72 ~ Update dispatch record enter vehicle and crew; change status to "D"; store time; update outbound vehicle file

↓

74 ~ Create pager data Initialize page counter → (C) Fig. 4B

Fig. 4A

(A) ↓

Write record to exception file (Fig. 3J) with reason code

80 ~

↓

(B) Fig. 4A

Fig. 4B

(C)

↓

76 ~ Increment pager counter

↓

78 ~ Is page counter greater than 3? Yes → (A) Fig. 4A

↓ No

Reference employee pager file (Fig. 3E)

80 ~ and pager service file (Fig. 3F) to read page

↓

82 ~ Page sent OK? No → (C) Fig. 4B

↓ Yes

84 ~ Initialize route counter

(D) → ↓

86 ~ Increment route counter

↓

88 ~ Is route counter greater than 3? Yes → (A) Fig. 4A

↓ No

Request route from

90 ~ AVL for selected vehicle to destination, and wait. (Fig. 3L-1)

↓

92 ~ Route received? No → (D) Fig. 4B

↓ Yes (Fig. 3L-2)

Create vehicle MDT

94 ~ message with patient data, directions route, other info.

↓ (Fig. 3M-1)

96 ~ Initialize MDT counter

(E) → ↓

98 ~ Increment MDT counter

↓

100 ~ Is MDT counter greater than 3? Yes → (A) Fig. 4A

↓ No

Send AVL request

102 ~ for MDT message to vehicle (Fig. 3M-1)

↓

104 ~ MDT confirmation received? (Fig. 3M-2) No → (E) Fig. 4B

↓ Yes

Store dispatch time. Request Lat./Long.

106 ~ of vehicle from AVL (Fig. 3N-1)

↓

(B)

Fig. 4A

Fig. 5

120 ~ Open Dispatch File

(C) →

122 ~ Extract on file

(B) →

Get dispatch record (Fig. 3A) — 124 ~

126 ~ EOF? → (C) Fig. 5

↓

128 ~ Is record idxed in exception file? Yes → (B) Fig. 5

↓ No

130 ~ Is record status = dispatched? No → (B) Fig. 5

↓ Yes

132 ~ Is record from current company? No → (B) Fig. 5

↓ Yes

134 ~ Has vehicle reported as arrived? Yes →

Has vehicle reported as available? No → (B) Fig. 5

↓ NO

144 ~ ↓ Yes

136 ~ Is this an appointment or ASAP record?

ASAP ↓

138 ~ Compare <current time> minus <time of call> to <ASAP limit> to determine whether vehicle is late

Vehicle Late → (A) Fig. 5

Vehicle Not late

Appointment ↓

137 ~ Compare <appointment time> and <current time> to determine whether vehicle is late.

Vehicle Not late

Vehicle is late

Vehicle Not late

140 ~ Status late monitoring enabled for company?

↓ Yes

142 ~ Compare limit setting for current status to <current time> - <status time> to determine whether vehicle is late.

Vehicle Late → (A) Fig. 5

Vehicle Not Late

No →

(A) Fig. 5

↓

Write record to exception file (Fig. 3J) with reason code — 160 ~

↓

(B) Fig. 5

Mark record as finished and write to dispatch file Delete Record from outbound vehicle file — 146 ~

↓

Create invoice record (Fig. 3B) from dispatch record and write to invoice file — 148 ~

↓

Notify AVL of new vehicle status (Fig. 30-1) — 150 ~

↓

(B) Fig. 5

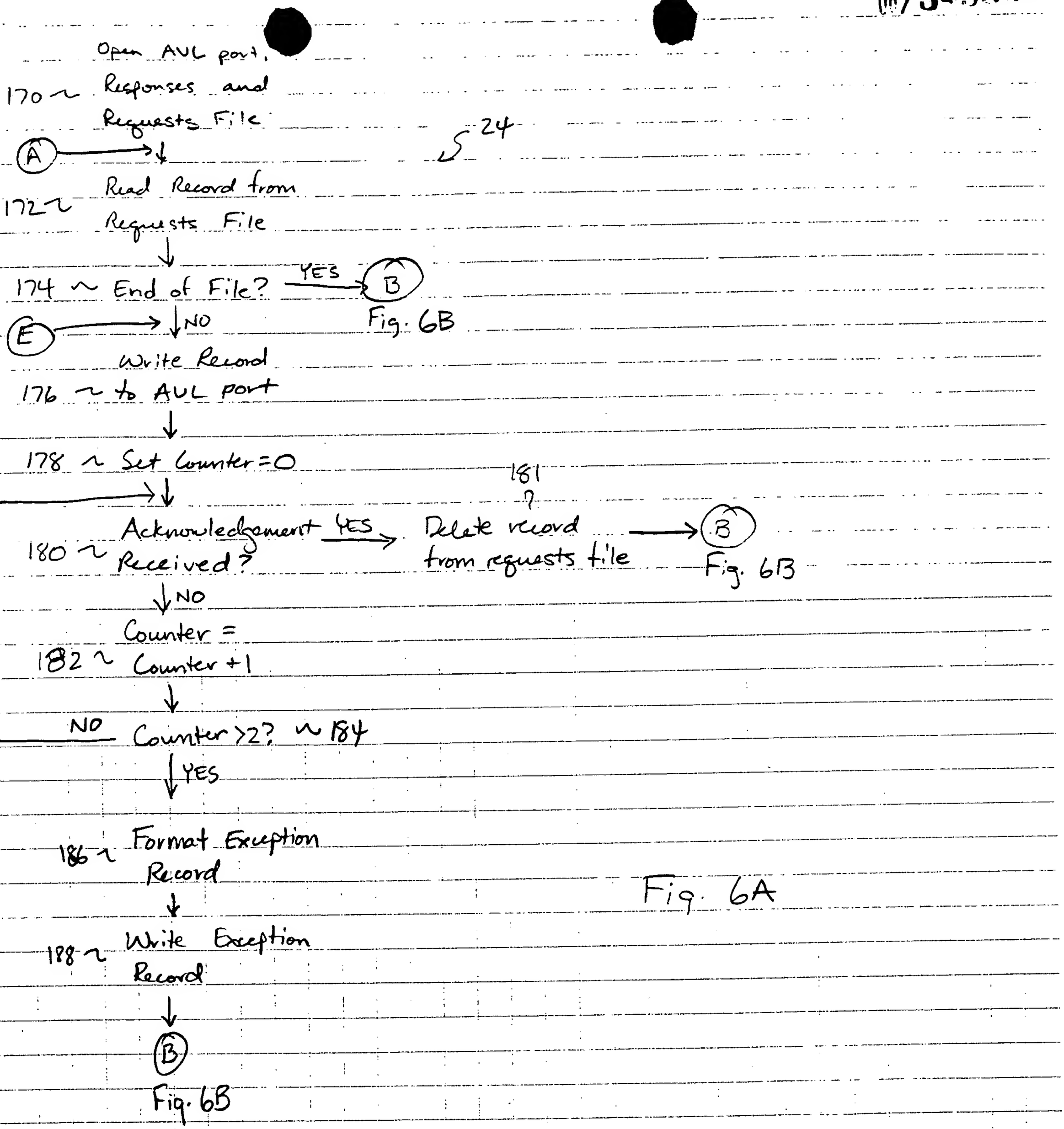
Open AUL port, Responses and Requests File
170
24
A
Read Record from Requests File
172
End of File?
174
YES
B
Fig. 6B
E
NO
Write Record to AUL port
176
Set Counter=0
178
181
?
Acknowledgement Received?
180
YES
Delete record from requests file
B
Fig. 6B
NO
Counter = Counter +1
182
Counter>2?
184
NO
YES
Format Exception Record
186
Write Exception Record
188
B
Fig. 6B

Fig. 6A

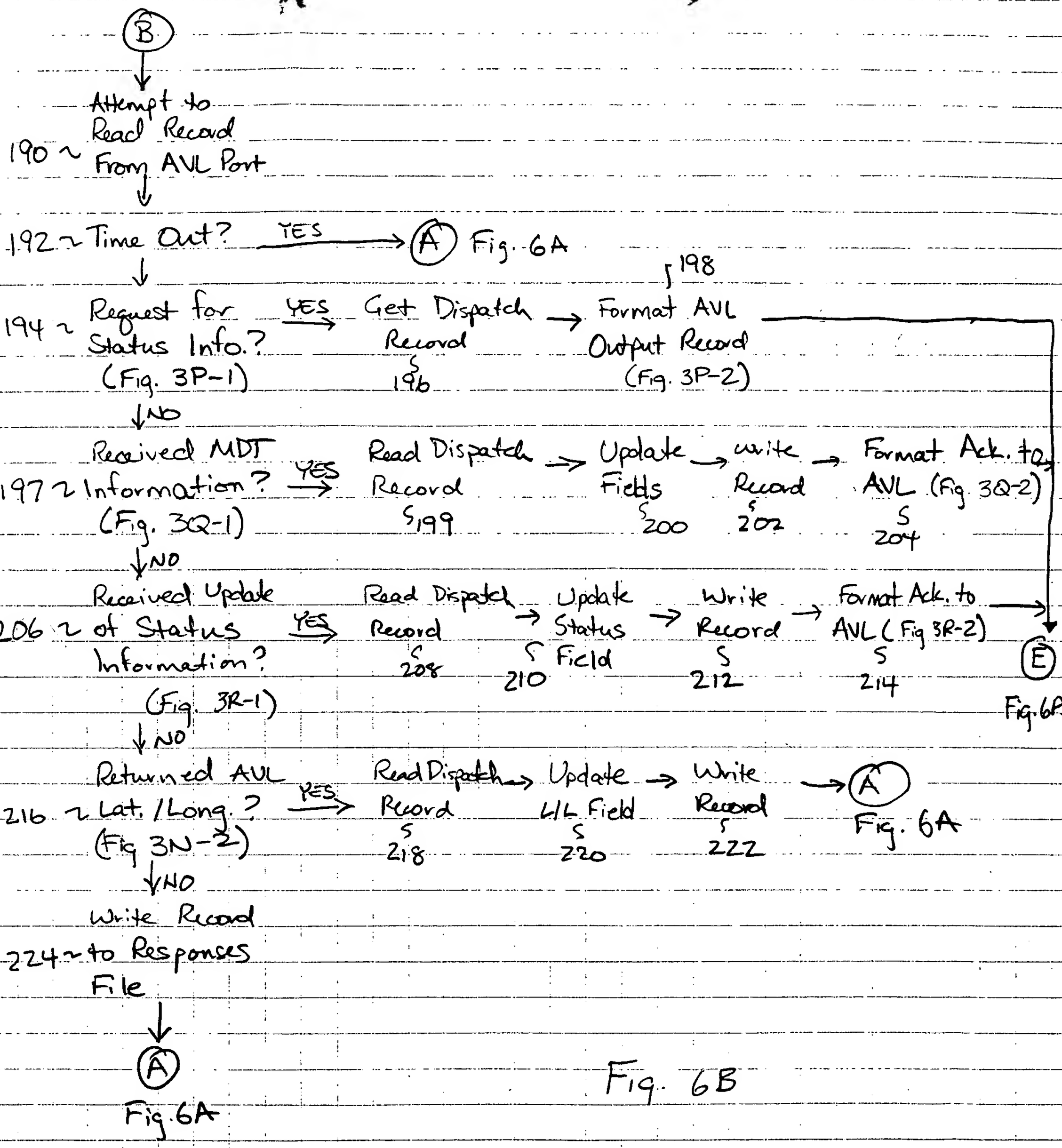
B
Attempt to Read Record From AVL Port
190
Time Out?
YES
A
Fig. 6A
192
Request for Status Info.? (Fig. 3P-1)
194
YES
Get Dispatch Record
196
Format AVL Output Record (Fig. 3P-2)
198
NO
Received MDT Information? (Fig. 3Q-1)
197
YES
Read Dispatch Record
199
Update Fields
200
Write Record
202
Format Ack. to AVL (Fig. 3Q-2)
204
NO
Received Update of Status Information? (Fig. 3R-1)
206
YES
Read Dispatch Record
208
Update Status Field
210
Write Record
212
Format Ack. to AVL (Fig 3R-2)
214
E
Fig. 6A
NO
Returned AVL Lat./Long.? (Fig 3N-2)
216
YES
Read Dispatch Record
218
Update L/L Field
220
Write Record
222
A
Fig. 6A
NO
Write Record to Responses File
224
A
Fig. 6A

Fig. 6B